51. A method according to claim 39, wherein at least one antenna comprises a rake receiver arranged to combine received diversity signals which are spatially separated, and wherein, the predetermined metric comprises a multi-path metric.

52. A fixed wireless access subscriber arrangement including a wireless receiver arrangement as described in claim 23.

53. A fixed wireless receiver arrangement according to claim 23 wherein the wireless receiver arrangement is a fixed wireless subscriber terminal.

54. A fixed wireless receiver arrangement according to claim 23, wherein the wireless receiver arrangement is a mobile wireless subscriber terminal.

55. A fixed wireless receiver arrangement according to claim 23, wherein the combiner, the plurality of switches and control means are arranged to perform switching of received diversity signals at predetermined time intervals which are equivalent to a fraction of a frame of said received diversity signals.

Remarks

In response to the Examiner's comments, the Applicants have deleted claims 1 to 22 currently on file and file herewith new claims 23 to 55. There is support in the specification and original claims filed for the amended claims and so added matter is not an issue. No additional fee is due since 22 claims remain.

The Applicants respectfully traverse the Examiner's rejections under 35 USC §103, in view of the Application claiming priority from UK patent application GB 9626549.1, which was filed on 20 Dec 1996, predating the earliest priority date of Kelton et al (US 5926 503) which is 27 August 1997. The Applicant submits that the amended claims are entitled to the priority date of GB9626549.1 and that accordingly Kelton et al is not relevant as prior art against the present application. A certified copy of GB9626549.1 was filed in parent application no. 08/955,862, filed October 21, 1997.

Nonetheless if Kelton were relevant, it is submitted that in Kelton it is only possible for additional signals to be added to an existing receive signal. It is not possible for the

existing signal to be dropped and replaced by another signal. In contrast, the present invention enables the initially received signal to be dropped if this fails to satisfy certain criteria, see for example, the truth table in Fig. 2A of the invention and paragraph 2 on page 8 of the specification. Accordingly, as Kelton et al do not teach replacing existing received signals with other received signals, Kelton does not anticipate the invention.

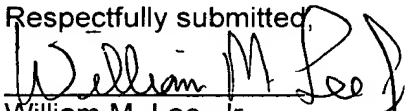
Moreover, as Patsiokas et al (US 5430769) teaches fast switching only in a TDMA environment and not a CDMA environment, it would not have been obvious to derive the invention from the teaching of Patsiokas et al alone (nor in combination with Kelton et al).

The applicant remains mute on the remaining prior art including Anvari (US 5 461 646) and Lee (US 5 818 543) in view of the above submission regarding the inadmissibility of Kelton et al as prior art.

In summary therefore, it is submitted that the amended claims are novel and non-obvious, and that the application should be allowed to proceed to issue.

November 1, 2002

Respectfully submitted,



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Version With Markings To Show Changes Made

Page 1, numbered line 13 – page 2, numbered line 21:

Presently, in typical mobile cellular radio networks both capacity (maximum number of users) and coverage (area covered from one base station site) tend to be limited by the system uplink (reverse link) performance. This is especially true where either uplink transmitter power is limited (by, inter alia, battery life considerations) or interference. Systems employing Code Division Multiple Access (CDMA) techniques with orthogonal downlink (forward link) and quasi orthogonal uplink are generally uplink capacity limited due to other user interference, when users are moving moderate speeds or faster. These CDMA systems employ powerful interleaving and coding to increase [and] robustness against adverse channel conditions and other user interference. It is, therefore, usual to employ diversity techniques at the base station receiver (uplink) but not on the down link. With the advent of third generation (3G) wireless communications systems i.e. IMT 2000 family members comprising CDMA (both direct spread and multicarrier) and TDMA technology and with mobile data also carried over upgraded existing networks, it is anticipated that more capacity will be required in the downlink rather than the uplink (due to data asymmetry). Similar data symmetry issues will arise in fixed wireless access system terminals, although very much higher power transmitters in fixed access terminals is possible than compared with mobile hand portables (e.g. 2 watts compared with 200 milliwatts). Since fixed wireless access terminals are usually mains powered with a battery backup provided by larger electrical cells than would be viable to put into a handset or other portable terminal. Additionally fixed wireless access terminals can be fitted with remote handsets or user interfaces and antennas positioned either externally or some distance from the users head/body.

Since fixed wireless access terminals are static or move infrequently, for example, between the rooms of a subscribers residence, some of the techniques applied to mobile down links, such as interleaving, are relatively ineffective. In these cases down link capacity and coverage can potentially be the limiting factors in deployment. Diversity techniques are well established and known to help this situation but have generally been considered too

complex to implement in a low cost terminal. [US-A-548 301] US Patent No. 6,167,286 (Nortel Networks [Corporation] Limited) provides a diversity scheme for base stations with several antennas. This arrangement only processes the outputs from receive antennas which contribute to the overall carrier to raise ratio. This arrangement comprises phase rotators and continually monitors received power levels which results in a moderately complex system suitable for base stations having a large number of antennas.

Page 5, lines 24 – 36:

A first embodiment of the invention is shown in Figure 2 and provides a simple to implement downlink diversity scheme. The arrangement 20 comprises two antennas, 22, 24. Each antenna receives a different signal due to the multi-path environment. These signals are then amplified by low noise amplifiers 24 to provide a low noise front end to the receiver, 26. One signal is time delayed by optional delay means 28 by a period τ, where τ is the chip rate or the inverse of the Spread bandwidth which signals are switched at as appropriate, to a two-way power combiner, 30, the operation of which is controlled by control means 34. A filter (not shown) is provided to filter out adjacent channel interference. The combiner scheme conveniently employs RAKE receivers and makes use of the ability of RAKE receivers to combine two time delayed multi-paths in an optimal manner. Other arrangements operable to provide a signal metric are possible instead of the RAKE receiver.